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includes other information 110 needed to perform the calculations. The other information includes, for example, mortgage insurance rates. Some or all of the components of the software module 104 can be downloaded over the Internet from a remote website. Alternatively, the software module 104 can be loaded onto the computer 102 using a CD-ROM or floppy diskette." New claims 21 and 22 respectively address these optional system and method embodiments. Claim 16 has been amended to correct a grammatical error.

New system claim 23 and method claim 24 have been added. These claims are respectively similar to claims 1 and 9, with deletion of the requirement for calculating a maximum dollar amount of a house purchase price that the borrower can afford without using mortgage insurance. These new claims are directed to "optimizing a borrower's use of mortgage insurance based upon projections of future home equity." Calculations regarding a conventional loan devoid of mortgage insurance accordingly may be optionally provided for comparison purposes. See, for example, the specification at page 11, lines 8-15 which states: "In step 160, the Homeowner Equity Calculator computes the maximum home affordable, based upon cash and income constraints, over the range of traditional LTV loan structures using mortgage insurance. In step 162, the computer selects the LTV that delivers the highest affordable house price for comparison with a loan based upon a 20% down payment, that is, without mortgage insurance. The LTV delivering the highest affordable house price is referred to as the 'Optimum LTV.' In step 164, the Homeowner Equity Calculator projects future equity amounts for both the 20% down payment loan and the Optimum LTV loan."

Claims 1-24 are presently pending. Attached hereto is a marked-up version of the amended claims, captioned "Version With Markings To Show Changes Made," showing the changes made by the present amendment.

### The Present Invention

The present invention provides systems and methods for optimizing the use of mortgage insurance based upon projections of future home equity. Mortgage insurance protects a lender against a default by a home buyer on a mortgage. Mortgage insurance provides home buyers with greater flexibility in choosing a property, because with mortgage insurance a home buyer can purchase a home with significantly less than the minimum down payment of 20% or more that otherwise typically is required. Thus, mortgage insurance can be used to increase a home buyer's "leverage," allowing a home buyer to buy a more expensive property with a smaller percentage of initial equity. It is assumed that real estate prices rise over time as a percentage of the initial purchase price. Provided that the borrower's initial assumption concerning the appreciation of real estate values over time proves to be correct, and assuming that the borrower holds onto the property for the requisite number of years, it is generally to the borrower's advantage from the point of view of maximizing future home equity, to purchase as expensive a property as the borrower initially can afford. Thus, if a home buyer uses mortgage insurance to purchase a more expensive property, then over the course of several years the home buyer may have a greater dollar amount of home equity than would have been the case if the home buyer had not used mortgage insurance and instead had initially purchased a less expensive property with the same initial down payment.

However, despite their potential benefits, mortgage insurance products are often not well understood by prospective home buyers and can therefore be difficult to sell. The systems and methods of the present invention calculate a maximum dollar amount for the purchase price of a house that the borrower can afford, based upon an optimal loan-to-value ratio achievable using

mortgage insurance, that allows a prospective home buyer to see on a case-by-case basis how much additional equity can be built up through the use of mortgage insurance.

Fig. 3 shows the inputs and outputs in one system according to the present invention. The outputs are shown as a series of tables 34, providing analyses for varying loan-to-value (LTV) ratios, ranging from 100% down to 80%. For example, LTVs of 80% and 97% mean that the down payment made on a property is 20% and 3%, respectively. Within each table 34, the system lists the borrower's cumulative projected future home equity position for years one through ten. The analyses contained in the tables 34 in Fig. 3 assist a borrower in determining an optimum LTV ratio, that is, an LTV ratio that maximizes projected future home equity. Once this optimum LTV ratio is determined, the calculator generates a graphical representation 36 comparing the buildup of projected future home equity at the optimum LTV ratio of 97%, with the projected future home equity at the minimum LTV ratio of 20% that is typically required by the lender if mortgage insurance is not purchased.

The present invention accordingly provides a system as defined in claim 1 for optimizing a borrower's use of mortgage insurance based upon projections of future home equity, comprising: a central processing unit having electronic access to mortgage insurance information; and a user interface for receiving user inputs indicative of a borrower's financial situation, closing costs, loan terms, and a house value appreciation assumption, and for providing those inputs to the central processing unit, the central processing unit performing an analysis of the inputted information and calculating a maximum dollar amount of a house purchase price that the borrower can afford, based upon an optimal loan-to-value ratio, achievable using mortgage insurance, that maximizes future home equity, the central processing unit further calculating a maximum dollar amount of a house purchase price that the borrower can afford without using

mortgage insurance, and the central processing unit providing results of the calculations to the user interface for output to the user.

The present invention also provides a method as defined in claim 9 for optimizing a borrower's use of mortgage insurance based upon projections of future home equity, comprising: (a) entering inputs into a central processing unit having electronic access to mortgage insurance information, the inputs including the borrower's financial situation, closing costs, loan terms, and a house value appreciation assumption; (b) performing an analysis of the inputted information, using the central processing unit, and calculating a maximum dollar amount of a house purchase price that the borrower can afford, based upon an optimal loan-to-value ratio, achievable using mortgage insurance, that maximizes future home equity; (c) calculating a maximum dollar amount of a house purchase price that the borrower can afford without using mortgage insurance; and (d) outputting from the central processing unit the results of the calculations.

#### The Art Rejection

Claims 1-20 stand rejected under 35 U.S.C. 103(a) based on Ryan. Applicant respectfully traverses this rejection and requests that it now be withdrawn in view of the discussion below.

The Official Action states at page 6, lines 8-11, that Ryan "...does not explicitly teach calculating a maximum dollar amount of a house purchase price based upon an optimal loan to value ratio achievable using mortgage insurance or constrained by the cash available to borrower to close or constrained by income."

Applicant agrees with the quoted characterization of Ryan, except that it substantially understates Ryan's inadequacy as a reference. The present invention relates to systems and methods that employ mortgage insurance to facilitate the purchase of property of increased initial

value which may be at the highest possible price, in order to maximize the leverage of a down payment for maximum growth of future home equity. Ryan in contrast relates to systems and methods for bundling home purchase financing and life insurance. Ryan's life insurance is not the same product as mortgage insurance. Moreover, Ryan fails to disclose and fails to suggest the use of such life insurance to facilitate the purchase of property of increased initial value which may be at the highest possible price, in order to maximize the leverage of a down payment for maximum growth of future home equity.

The Official Action's lengthy attempt to bridge the void from Ryan to the present claims is conclusory, and is unsupported by and taught against by Ryan. Applicant notes for the record that independent claims 1 and 9 of Ryan do not recite the following language utilized by the Official Action in rejecting the claims of the present invention: "...constrained by the cash available to borrower to close or constrained by income...".

Ryan explains that "in the US there is a unique problem of how to lawfully combine a mortgage and life insurance and additionally make a viable financial product." Ryan, col. 2, lines 57-59. Ryan discloses, as a solution to that problem, systems and methods for preparing, processing and transmitting life insurance premium quotes as part of a mortgage calculation in support of a new financial product. In the new financial product, life insurance is used as collateral and as a means for repayment of a mortgage, and facilitates the purchase of real estate without, or with a greatly reduced, down payment. The key components to the transaction may include: a balloon repayment mortgage, life insurance coverage equal to the amount of the mortgage, and a separate vehicle for accumulating principal. Ryan col. 9, lines 13-17 and lines 40-57. Other instruments that may be used as collateral instead of life insurance include, for example, term insurance used in conjunction with a security such as a zero coupon bond, or term

insurance used in conjunction with a deferred annuity. Ryan, col. 43, line 64 through col. 44, line 4.

Ryan makes sparse references to mortgage insurance, and expressly teaches that Ryan's systems and methods generally do not involve mortgage insurance:

PMIPCT: This is the cost of private mortgage insurance. Because of its enhanced security to lenders, this is not expected to be a cost with the Ryan Mortgage. Conventional mortgages typically require private mortgage insurance if the down payment amount is less than 20 percent of the purchase price of the home. The system allows an input in FIG. 3B-2, Block 182, but the default is 0.5 percent of the original mortgage balance annually until the mortgage balance goes below 80% of the original purchase price of the home. The system uses zero for the Ryan Mortgage. However, other values may be used for both the Ryan Mortgage and the conventional mortgage. Ryan col. 65, lines 52-63.

Block 150 computes a conventional mortgage, term insurance cost, and private mortgage insurance cost such that Block 152 can produce an illustration of the Ryan Mortgage in comparison with a conventional mortgage. Ryan col. 29, lines 50-57; and excerpted from text in Fig. 3B-7.

The attached illustration shows how life insurance can be used instead of the traditional down payment or private mortgage insurance approach to provide security for your mortgage. Excerpted from text in Fig. 27A.

With The Ryan Mortgage, you will enjoy greater tax deductions from interest than with a conventional mortgage. You will enjoy a low up-front payment. Because your equity in the life insurance policy cash value will accumulate more rapidly than conventional mortgage amortization, you will not have to pay private mortgage insurance. Excerpted from text in Fig. 27E.

The weight of Ryan's insurance discussion relates to life insurance. Life insurance does, as disclosed by Ryan, include death benefits to retire the mortgage upon the death of the borrower. However, any such death benefits are not utilized in the manner taught and claimed by the present invention as addressed in greater detail below. Further, life insurance as utilized by Ryan is intended to perform substantial functions that mortgage insurance, as that vehicle is typically understood, cannot be used to perform. For example, Ryan discloses the use of

premiums paid on life insurance as a substitute for the initial down payment on a mortgage, and the use of accumulated cash values to retire the outstanding principal on a mortgage in the event of the borrower's survival. Ryan, col. 1, lines 7-24; see also for example, col. 7, line 52 through col. 8, line 10. To sum up, Ryan is going in a different direction than does the present invention.

As to claims 1, 3, 5 and 6, the Official Action includes at pages 2-4 a detailed summary of Ryan's purportedly relevant features. However, Ryan does not disclose and does not suggest systems or methods for optimizing a borrower's use of mortgage insurance based on projections of future home equity. Ryan to the contrary discloses mortgage insurance as being undesirable and normally unneeded for one following his teachings.

Regarding claims 2 and 4, the above discussion is fully dispositive and the further characterizations made of Ryan are therefore irrelevant. Regarding claims 7 and 8, the above discussion is fully dispositive. Moreover, there is no support in Ryan for the conclusory speculation made as to obviousness.

Regarding claims 9, 11, 13 and 14, Ryan does not disclose and does not suggest methods for optimizing a borrower's use of mortgage insurance based on projections of future home equity. Again, Ryan teaches mortgage insurance as being an undesirable, normally unneeded feature. The detailed summary of Ryan's purportedly relevant features at pages 4-6 of the Official Action is therefore irrelevant, and the conclusory statements made as to obviousness are unsupported by Ryan.

Regarding claims 10 and 12, the above discussion is fully dispositive and the further characterizations made of Ryan are therefore irrelevant. Regarding claims 15 and 16 as well as claims 17-20, the above discussion is fully dispositive. Moreover, there is no support in Ryan for the conclusory speculation made as to obviousness.



In closing, Ryan does not disclose and does not suggest methods for optimizing a borrower's use of mortgage insurance based on projections of future home equity.

In particular, Ryan fails to disclose and fails to suggest a system for optimizing a borrower's use of mortgage insurance based upon projections of future home equity, comprising: a central processing unit having electronic access to mortgage insurance information; and a user interface for receiving user inputs indicative of a borrower's financial situation, closing costs, loan terms, and a house value appreciation assumption, and for providing those inputs to the central processing unit, the central processing unit performing an analysis of the inputted information and calculating a maximum dollar amount of a house purchase price that the borrower can afford, based upon an optimal loan-to-value ratio, achievable using mortgage insurance, that maximizes future home equity, the central processing unit further calculating a maximum dollar amount of a house purchase price that the borrower can afford without using mortgage insurance, and the central processing unit providing results of the calculations to the user interface for output to the user.

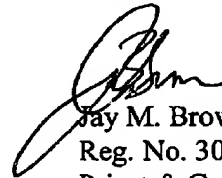
Ryan also fails to disclose and fails to suggest a method for optimizing a borrower's use of mortgage insurance based upon projections of future home equity, comprising: (a) entering inputs into a central processing unit having electronic access to mortgage insurance information, the inputs including the borrower's financial situation, closing costs, loan terms, and a house value appreciation assumption; (b) performing an analysis of the inputted information, using the central processing unit, and calculating a maximum dollar amount of a house purchase price that the borrower can afford, based upon an optimal loan-to-value ratio, achievable using mortgage insurance, that maximizes future home equity, (c) calculating a maximum dollar amount of a

house purchase price that the borrower can afford without using mortgage insurance; and (d) outputting from the central processing unit the results of the calculations.

Conclusion

All of the presently pending claims, as amended, appearing to define over the applied references, withdrawal of the present rejection and prompt allowance are requested.

Respectfully submitted,



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Appl. No. 09/748,934

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims

Please amend claims 1, 9 and 16 as follows:

1. A system for optimizing a borrower's use of mortgage insurance based upon projections of future home equity, comprising:

a central processing unit having electronic access to mortgage insurance information [stored in memory]; and

a user interface for receiving user inputs indicative of a borrower's financial situation, closing costs, loan terms, and a house value appreciation assumption, and for providing those inputs to the central processing unit,

the central processing unit performing an analysis of the inputted information and calculating a maximum dollar amount of a house purchase price that the borrower can afford, based upon an optimal loan-to-value ratio, achievable using mortgage insurance, that maximizes future home equity,

the central processing unit further calculating a maximum dollar amount of a house purchase price that the borrower can afford without using mortgage insurance,

the central processing unit providing results of the calculations to the user interface for output to the user.

9. A method for optimizing a borrower's use of mortgage insurance based upon projections of future home equity, comprising:

(a) entering inputs into a central processing unit having electronic access to mortgage insurance information [stored in memory], the inputs including the borrower's financial situation, closing costs, loan terms, and a house value appreciation assumption;

(b) performing an analysis of the inputted information, using the central processing unit, and calculating a maximum dollar amount of a house purchase price that the borrower can afford, based upon an optimal loan-to-value ratio, achievable using mortgage insurance, that maximizes future home equity,

(c) calculating a maximum dollar amount of a house purchase price that the borrower can afford without using mortgage insurance; and

(d) outputting from the central processing unit the results of the calculations.

16. The method of claim 15, further including:

calculating the projected future home equity for years one through ten.